Soetam Rizky Wicaksono. (2013). Implementation of Collaborative Learning in Higher Education Environment. *Journal of Education and Learning.* Vol.7 (4) pp. 219-222.

Implementation of Collaborative Learning in Higher Education Environment

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Abstract
The need of improvement in learning process, especially in higher education environment, has already begun a dilemma for many lecturers. Many experts has already agreed that one of the success factor in learning process improvement is creating collaboration among students. This pre-eliminary action research tried to implement collaborative learning from small groups using simple task and escalating into large group with more complicated collaborative framework. Although there is no quantification result in this research, the questionnaire result has already proven that collaborative learning is feasible in higher education environment. However, further research in term of collaborative learning can be done easier using the result from this research.

Keywords*: Collaborative, Collaborative Learning, Higher Education*

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1. BACKGROUND

The need of improvement in learning process, especially in higher education environment, has already begun a dilemma for many lecturers. Many experts has already agreed that one of the success factor in learning process improvement is creating collaboration among students (Bruffee, 1984; Cerny & Mannova, 2011; Dillenbourg P. , 1999; Gilbert & Driscoll, 2002; Nelson, 1999; Puntambekar, 2006; Smith & MacGregor, 1992). However, the implementation of collaboration in learning process, or commonly known as collaborative learning, is not as easy as what we think.

The need of learning process improvement using collaborative learning nowadays empirically has been proven in many higher education environment (Falkner & Munro, 2009; Kelly, 2002; Cabrera, Crissman, Bernal, Nora, Terenzini, & Pascarella, 2002). However, those experiment also prove that the implementation should have contextual study in order to create proper instructional strategy for future intention. Thus, further experiment for specific higher education environment should be conducted in order to get better result.

Most of lecturers are confusing the term of collaboration with term of cooperation. Some experts think that all of those term are just the same and interchangeable (Johnson & Johnson, 2009; Johnson & Johnson, 2007). However some others stated that term of collaboration is completely different with the term of cooperation, especially in educational technology context (Dillenbourg P. , 1999; Falkner & Munro, 2009; Smith & MacGregor, 1992).

Collaborative learning as stated clearly as a situation in which two or more people learn or attempt to learn something together (Dillenbourg P. , 1999), has already have similar meaning by other experts (Bruffee, 1984; Falkner & Munro, 2009). These groups of experts also approve that collaborative learning should contain share meaning in providing new knowledge for the attendee.

It also defined that collaborative learning should be happened when peers are more or less at the same level and can perform the same action, have common goals and working together in an intense interaction (Dillenbourg P. , 1999). This definition also clearly specified the main difference between collaboration and cooperation, while collaboration mostly doing negotiation and share meaning between peers, while cooperation, partners split the work, solve sub-tasks individually and then assemble the partial results into the final output (Dillenbourg P. , 1999; Kelly, 2002).

Based upon previous definitions, many researchers and lecturers has already been conducting experiment about collaborative learning implementation in higher education environment. However, most of them merely stated quantitative result and conclude whether collaborative learning implementation is successful or fail (Cerny & Mannova, 2011; Cabrera, Crissman, Bernal, Nora, Terenzini, & Pascarella, 2002; Johnson & Johnson, 2009).

Thus, in this context, collaborative learning that implemented in this experiment strictly enforce students in same level of knowledge having the same goals for same level of task difficulty level and also administer then to work together collaboratively. This condition need small group implementation which already proven to be better rather than large-group implementation.

This research merely did action research which take place for three classes at Information System study program at Science and Technology Faculty Ma Chung University. All of those classes given scaffolding task which lead the into collaborative learning implementation in small groups. Rather than keeping them competitively in doing their task, this experiment contrary gather all their works into one single large compilation (in this case is providing a case study book). Therefore, this collaborative learning implementation should really create collaborative mindset for students during one semester.

2. COLLABORATIVE LEARNING IN HIGHER EDUCATION

Collaborative learning implementation in higher education environment definetely needs special approaches compared with other environments such as elementary and middle level. This special approaches based upon the uniqueness of higher education environment. While most of college students are categorized as adult, then it will need more than just playful action or merely fun factor in order to create better collaborative learning (Johnson & Johnson, 2007).

It also need active engagement which should created from active participation of learning activities (Dillenbourg, Baker, Blaye, & O'Malley, 1996; Stahl, Koschmann, & Suthers, 2006). It means that the lecturers should really create better environment which really pointed through student-centered learning rather than teacher-center learning (Falkner & Munro, 2009; Kelly, 2002; Johnson & Johnson, 2009). This approach has already become common sense among collaborative learning practicioner.

Another special approach is when the lecturer who is more focus as a moderator rather than instructor in its process (Cerny & Mannova, 2011; Cabrera, Crissman, Bernal, Nora, Terenzini, &

Pascarella, 2002). This approach can be done better whenever lecturer tries to accomplished his mission using technology support, in more specific is computer support.

The need of computer support in collaborative learning or commonly known as Computer Supported Collaborative Learning (CSCL) in higher education is really a must (Dillenbourg, Baker, Blaye, & O'Malley, 1996; Cerny & Mannova, 2011; Kelly, 2002). This happen not merely because of the born of net generation who already addicted to gadget (Gros, Guera, & Sanchez, 2005), but also happen because of easeness and active engagement which created by using CSCL.

3. IMPLEMENTATION

This action research which took place at Ma Chung University, moreover at Information System Study Program done in August until December 2012. The research subject is taken from three classes which are XML, Desktop programming and Decision Support System classes. Those classes have average 20 students who considered as three and four year college students.

While the collaborative learning begun with simple small group task, such as creating small paper and trying presenting it in bigger group. After half of semester, the activities became increasingly harder for students, such as creating case study analysis and also aggregating definitions for each group and exchanging them using blog.

The final task includes collaboration from small groups which are transformed as one large group. This transformation happened since that the final task was ordering them to create one single book which each chapter done by small groups.

This transformation has already become such chaos in some classess because of the friction between classmates and also small groups. However, all of the classes have already completed their task as large group which actually prove that they were going after the same goals and despite of their own conflict together.

4. DISCUSSION

This action research actually becoming pre-eliminary experiment for bigger research in computer-supported collaborative learning instructionall strategy design. Thus, the result in this research is not measured by quantitative method. However, there is questionnaires which spread out to students in order to pull out their reflection.

Students' reflection in this experiment has already shown good response along the collaborative learning implementation. At least more than ninety percent students agree that this method is really good and motivate them to learn and also knowing their classmates better.

On the other hand, their conflict and friction is never shown in the questionnaire, since that most of their conflict has already been resolved whenever they know that they must finish the task in certain deadline. Certainly, this result is quite surprising remembering that the composition of students in all of classes consist of multiple races and also multi gender.

It also proves that the transformation of small groups into large group is not a big problem for collaborative learning implementation. However, conflict and friction will always happen in most classes, and it depend on how the lecturer handle the situation. While this experiment merely implements pre-eliminary research, so there is no special strategy suggested in handling such situation.

Conclusions

The result of this action research as pre-eliminary research is not merely that collaborative learning already implemented. Furthermore, the main purposes from this research is trying to prove how to bring collaborative learning environment from small groups into large group. Thus, it would empirical proof for future research that collaborative learning really should being done in simple step-by-step method and bring the task in staggered process, from simple task into more complicated one.

On the other hand, as the base of next research, the output and also the outcome from this method implementation should be quantified (in this case, because of only certain sample available, then it should use quasi experiment model). It also can improve the next research to be more focus at how to measure the output and how to improve the output in future especially in higher education environment.

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